Veronica Cateté

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Objective

To find a full time research and development position in game based learning or K-12 computing curriculum development and evaluation.

Education

Ph.D. Computer Science — NC State University — Expected: Dec 2017
Thesis**:** A *Design-Based Research Approach towards Instructional Support for Beginner AP Computer Science Principles Teachers*
Committee: Dr. Tiffany Barnes, Dr. James Lester, Dr. Sarah Heckman, and Dr. Aaron Clark

MS. Computer Science — UNC Charlotte — Aug 2012
Concentration: *Intelligent & Interactive Systems*; *Mobile Game Design*
Research: Social game based learning for introductory programming: bots.game2learn.com and Social networking games to improve interaction at conferences: snagemgame.com

B.S. Computer Science — NC State University — Dec 2010
Minor: *Science Technology & Society;* Honors*: Magna Cum Laude*
Research: Measuring affect in intelligent game based learning environments.

Graduate Research Experience

Mothering Across Continents, Kigali, Rwanda — Summer 2016

Lead Researcher

- Primary responsibilities include developing scalability partnerships with Rwanda Ministry of Education and Ministry of Youth ICT and conduct follow-ups with STEM-ICT Academy
- Curated content and trained leaders for Computer Science portion of week long 'Pivot Academy', a STEM focused program for constructive learning (150 female participants)

Microsoft Research, Redmond, WA — Summer 2014, 2015

Research Intern

- Field review of reliable scientific literature on Minecraft Education delivered as a whitepaper to the managers of the Minecraft acquisition team; Provided guidance on existing research in ME, possible directions for future support and extensions. Results contributed to FAQ on Minecraft Education's main webpage.
- Using project Athena, developed two online resources for global distribution of CS Education: 20+ module game-centric AP CS Principles course and a 6 module science-themed middle school computing toolkit

NCSU Center for Educational Informatics, Raleigh, NC — 2012 – Present

Research Assistant

- Research on training novice teachers to identify computational thinking in student code
- Assist in development and refinement of AP CS Principles Beauty & Joy of Computing (BJC) & run BJC professional development in conjunction with UC Berkeley
- Lead developer, coordinator of monthly middle school outreach program (starting 2009)
- Research variables affecting transition from middle school outreach to high school formal courses

UNCC Games + Learning Lab, Charlotte, NC — 2011 – 2012

Research Assistant

- Rapid prototyping of games with a purpose: BOTS (bots.game2learn.com) and Snag'em (snagemgame.com)
- BOTS (Unity3D, js): Developed GUI-based programming game featuring 3D world puzzles
- Snag'em (php, mysql, js): Developed badge system, upgraded social network visualization, missions, and database structure

Research Grants & Awards

- National Science Foundation Graduate Research Fellowship $132,000
- Microsoft Research Graduate Women's Scholarship, $17,000
- NCSU Research Assistantships $81,000
- NCSU Women in Computer Science Scholarships $10,000
- STARS Alliance Travel Grants $5,000
- Grace Hopper Conference – Apple Scholarship, $800
- 2016 Deborah S. Moore Outstanding Student Volunteer Award
- 2017 Equity for Women Award Presented by the Council on the Status of Women

Peer-Reviewed Publications in Conference Proceedings

Price, T., Liu, Z., **Cateté, V.** and Barnes, T. "Factors Influencing Students' Help-Seeking Behavior while Programming with Human and Computer Tutors." *International Computing Education Research (ICER) Conference*. 2017. (27% acceptance rate; 29/108 full papers)

(Best Paper Nominee) Cateté, V., and Barnes, T. "Application of the Delphi Method in Computer Science Principles Rubric Creation." *International Conference on Innovation and Technology in Computer Science Education (ITiCSE).* 2017. (32% acceptance rate; 56/175 full papers)

(Best Paper Nominee) Cateté, V., and Barnes, T. "Developing a Rubric for a Creative CS Principles lab." *International Conference on Innovation and Technology in Computer Science Education (ITiCSE).* 2016. (38% acceptance rate; 51/134 full papers)

Price, T., **Cateté, V**., Albert, J., and Barnes, T., Garcia, D. "Lessons Learned from "BJC" CS Principles Professional Development." *ACM Special Interest Group on Computer Science Education (SIGCSE).* 2016. (35.4% acceptance rate; 105/297 full papers)

Price, T., Albert, J., **Cateté, V.**, and Barnes, T. "BJC in Action: Comparison of Student Perceptions of a Computer Science Principles Course." *Research in Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT) Conference*. 2015. (44.4% acceptance rate; 8/18 short papers)

Hicks, A., **Cateté, V**., Zhi, R., Dong, Y., and Barnes, T. "BOTS: Selecting Next-Steps from Player Traces in a Puzzle Game." *Workshop on Graph-based Edu. Data Mining at the International Conference on Educational Data Mining,* (EDM). 2015.

Hicks, A., **Cateté, V.**, Zhi, R., Dong, Y., and Barnes, T. "Applying "Deep Gamification" Principles to Improve Quality of User-Designed Levels." *Conference on Games+Learning+Society (GLS).* 2015. (Acceptance rate 32%)

Cateté, V. "CS Outreach to High School Enrollment: Bridging the Gap." *International Computing Education Research (ICER) Conference*. 2014. (25% acceptance rate; 17/69 full papers)

(Best Paper Nominee) Hicks, A., **Cateté, V**., and Barnes, T. "Part of the Game: Changing Level Creation To Identify and Filter Low Quality User-Generated Levels." *International Conference on the Foundations of Digital Games (FDG).* 2014. (44% acceptance rate; 38/86 full papers)

Cateté, V., Wassell, K., and Barnes, T. "Use and Development of Entertainment Technologies in After School STEM Program." *ACM Special Interest Group on Computer Science Education (SIGCSE).* 2014. (39% acceptance rate; 108/274 full papers)

Powell, E., Brinkman, R., **Cateté, V.**, and Barnes, T. "Table Tilt: Making Friends Fast." *International Conference on the Foundations of Digital Games (FDG).* 2012. (29% acceptance rate; 29/99 full papers)

Extended Abstracts & Posters

Subramaniam, M. and **V. Cateté**. "A Pathway to Strengthening Support for Beauty and Joy of Computing Teachers." *ACM Special Interest Group on Computer Science Education (SIGCSE).* 2017.

Price, T., **Cateté, V**., Albert, J., and Barnes, T. "Determining the Impact of Teacher Professional Development on Perceived Ability to Teach a Computer Science Principles Course." *International Computing Education Research (ICER) Conference*. 2015.

Cateté, V. "Evaluating High School Teachers use/understanding of Snap in BJC." *UGSA Graduate Research Symposium*. 2015.

Olaya, J., D. Hicks, **V. Cateté**. (2012). "Teaching Concepts through Educational Games Using Social Aspects Within Peers." *ACM Special Interest Group on Computer Science Education (SIGCSE).* 2012.

(**1st place Outreach Poster**) Sabourin, J. **V Cateté**, M Draelos, et al. "SPARCS Middle School Outreach." *STARS Celebration*. 2011.

(**2st place Outreach Poster**) Draelos, M., **V. Cateté**, O. Estrella et al. "Digital Logic Lesson Plan for Middle School Outreach." *STARS Celebration.* 2011.

(1st place Research Poster) Cateté, V., J. Sabourin. "Examining Facial Expressions of Emotion in Narrative Centered Learning Environments." *STARS Celebration.* 2010.

Cateté, V., J. Sabourin. "Designing & Building a Pressure Sensitive Seat for analysis of Student Affect in Game." *NCSU Poster & Pies Student Research Competition*. 2010.

Presentations & Workshops

Barnes, T., **V. Cateté**, A. Hicks, B. Peddycord III. "Making Games and Apps in Introductory Computer Science." *ACM Special Interest Group on Computer Science Education (SIGCSE).* 2014.

Barnes, T., A. Boyce, **V. Cateté**. "Augmenting Introductory Computer Science Classes with GameMaker and Mobile Apps". *ACM Special Interest Group on Computer Science Education (SIGCSE).* 2013.

Lodah, S. Y. Chun, **V. Cateté**. "TouchDevelop in Teaching." *TouchDevelop Workshop.* 2013.

Cateté, V., K. Doran. "3rd World Network Administration." *STARS Celebration.* 2012.

Cateté, V., A. Watson. **"**Initiating and Implementing a Successful Outreach Program". *STARS Celebration*. 2012.

Doran, K., **V. Cateté**. "Evaluating Your Outreach". *STARS Celebration.* 2012.

(Honorable Mention) Cateté, V. J Situka. "BOTS: Graphical Programming for Beginners". *Charlotte REU Student Research Competition*. 2010.

White Papers & Experience Reports

Cateté, V., Middleton, J. "Pivot Academy: A Design Cycle and ICT Approach to Supporting Competency-Based STEM in Rwanda." 2017.

Cateté, V., and Barnes, T. "Research Performed on Minecraft in Education." *White Paper for Microsoft Research*. 2015.

Professional Service

- ACM Technical Symposium on Computer Science Education (SIGCSE) – PC member 2017, 2018
- Conference on Innovation & Technology in Computer Science Education – PC member 2017
- International Computing Education Research Conference - SubReviewer 2016
- Proceedings of the Foundations of Digital Games - Reviewer 2014, 2015
- Bulletin of the American Meteorological Society - Reviewer 2014
- Journal for Education Data Mining - SubReviewer 2014
- Programming for Mobile and Touch (PRoMoTo) – Program Committee, Reviewer 2013, 2014
- International Conference on AI in Education - SubReviewer 2013

Specialty Courses & Skills

Intelligent Game Based Learning Environments, Evaluation of Game Design Techniques, Mobile App Development; Research Design & Quant Methods, Adv. Educational Psychology, Educational Data Mining; Software Engineering, Data Structures & Algorithms, Artificial Intelligence II, Graph Theory
Java, JavaScript, C#, C++, ActionScript, C|HTML, CSS, PHP, SQL|Unity3D, XNA, Eclipse, Visual Studio

Project Highlights

- Working with UC Berkley to develop an AP CS Principles course, the Beauty & Joy of Computing. Organized PD for 100+ teachers
- Collaborated with NCSU's History department to design three iPad and Kinect games on Lebanese Migration to North Carolina for NC Museum of History
- Design & developed a Unity3D forensics game for Shaw University to promote STEM interest in incoming freshman class
- Worked with STARS on High Hopes Haiti to mentor young women in computing, taught Scratch and OLPC use, and set up donated computers
- Lead programmer on team of 4, to develop a web based Scavenger Hunt Detective game, for Discovery Place, a children's museum in Charlotte, NC

Community Engagement & Service

- NCSU Graduate Student Association, Vice President — 2012 – 2016
- WICS Women in Computer Science, Member, Consultant — 2012 – 2017
- UNCC Student Government, Senator, Dept. Secretary, VP elect — 2011 – 2012
- SPARCS Middle School Outreach, Regional Coordinator — 2011 – 2016
- Students & Technology in Academia, Research, & Service (STARS Corps), Member, Team Lead (2011-2015), President (2012-2016) — 2009 – 2017
  Managed CS outreach volunteers, organized group meetings, managed a $10K+ budget and coordinated with school administrators.
- Association of Computing Machinery, Member — 2010 – Present
- Upsilon Pi Epsilon, International Honor Society for Computing & Informatics Disciplines, Member — 2010 – Present
- American Legions Jr. Auxiliary, Member — 2006 – Present
- Relay4Life (Childhood Cancer Awareness) — 2003 – Present

Game Competitions

- International Women's Hackathon – Co-hosting event for NCSU's newly accepted female computer science students — 2014, 2015
- Global Game Jam – Orchestrated a 1st time location, collaborated with IGDA chapter to facilitate interaction between industry and students — 2013
- Global Game Jam – *Bear Fight: Teddy Edition*. Lead Programmer, team of six. Multiplayer fighter game for girls, teddy bears having a pillow fight. — 2012
- Global Game Jam – *Baby Mammoths Journey to Mars*, now available on XBLIG. Level Designer, team of four. Canabalt game. (xbox 360) — 2011
- Imagine Cup – *Heroine*, Honorable Mention. Lead programmer, team of 4. Made a 2D fighter, featuring iconic historical women like Joan of Arc. — 2011

Teaching Experience

- Teaching Assistant, NCSU, CSC 226 - Discrete Mathematics — 2012
  Responsibilities include grading and proctoring exams
- Teaching Assistant, UNCC, ITCS 5231 - Adv. Game Design & Dev. — 2012
  Responsibilities include grading, and giving 2 lectures
- Teaching Assistant, UNCC, ITCS 5236 - Serious Games — 2011
  Responsibilities include grading, 1 lecture, and mentoring team projects
- Invited Speaker, Weatherstone Elementary, Used robots to teach a class of 1st graders about balance and motion. — 2013

- Char-Meck Parks and Recreation Center, Teen Tech Week – Led a summer camp, with 21 students, 3 hours a day, teaching apps & robotics 2012
- UNC-Charlotte, Primary Academy – Led five 2.5 hour workshops for 18 4th graders, teaching them how to create stories/games in Scratch 2012
- Microsoft® DigiGirlz Camp – Led 1 hr. workshops teaching high school girls how to build video games using Game Maker software. 2010 - 2012

- **Students in Programming, Robotics, And Computer Science** (SPARCS) – 2009 - 2016

SPARCS is a middle school outreach program aimed at broadening participation in computing. College mentors majoring in computer science run hands-on workshops introducing participants to computing concepts and applications.

(2009) Joined the program in its second year as a mentor, created GameMaker workshop. (go.ncsu.edu/stars_sparcs)

(2011) Led a team of 13 undergraduates to duplicate the program at 3 new diverse locations (starscomputingcorps.org/sparcs)

(2012) Created and led iPhone (XCode), Android (AppInventor), Windows Phone (TouchDevelop), and HTML5 web development workshops.

(2012-2016) Regional Coordinator of 6 SPARCS programs, which meet ~6 hours a month. There are ~130 students currently enrolled in the program.